

Fiber Optic Switch using Galvanometer-Driven X-Y Scanning**ABSTRACT**

A 1xN optical switch includes an input fiber collimator, an x-y scanning device including two perpendicular galvanometer-driven rotatable mirrors, and a 2-D array of output fiber collimators arranged over an output surface so as to be aligned with a corresponding ray extending from the x-y scanning device. Each of the output fiber collimators corresponds to a unique pair of rotation angles of the two mirrors. The output surface can have a spherical curvature, or a curvature which accounts for the dependency of optical path on the angles of the two mirrors. The switch allows improved switching speeds, accuracy, and reduced and uniform insertion losses. The architecture can be used for NxM switches and NxM cross-connects.